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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/098,517	03/18/2002	Westley Ashe	ASC-16	6222
7590	12/18/2003		EXAMINER	
H. JAY SPIEGEL P.O. BOX 444 Mount Vernon, VA 22121			ZAVERI, SUBHASH	
			ART UNIT	PAPER NUMBER
			2862	

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/098,517

Applicant(s)

ASHE, WESTLEY

Examiner

Subhash A Zaveri

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-16 is/are allowed.
- 6) ☒ Claim(s) 17-21, 23-28, 31-36, 38 and 39 is/are rejected.
- 7) ☒ Claim(s) 22, 29, 30, 37 and 40-44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This communication in response to applicant's amendment received on 08/08/03.
2. Applicant's remarks with respect to claims 26-28 and 31-33 have been considered but are moot in view ground(s) of rejection.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper time wise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b). Effective January 1, 1994, a registered attorney or agent of

record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. **Claims 17-21** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-33 of Ashe, U.S. Patent No 6,246,231 and in view of Hansen et al. Patent No. 5,767,669. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been well known to a person skill in the art to use a magnetic field position and orientation measurement system with permeable attenuator.

Claims 17-19 are suggested by claims 22 of Patent No. 6,246,231. The claim 22 of Patent No. 6,246,231 has a position measuring system comprising:

- a) a thin magnetic field permeable attenuator;
- b) a thin conductive plate below the attenuator;
- c) a thin transmitter above the attenuator, the transmitter capable of measuring in three dimensions;

Ashe lacks in showing a compensation coil element. Hansen et al. is cited to show the coil element 17' of Fig.4-5. with comparator cx of Fig.4 (column 10, line39-61) configuration to reduce the magnetic field distortion (eddy current distortion) as shown in Figs. 4-5 (column 11 and 12, line 5-65). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include this type of configuration of Hansen et al. in Ashe system to provide efficient and high

sensitivity detectable technique with nullifying and canceling external interference for detecting magnetic field of the metal object present in the environment with free of the distortion.

Claim 20 is suggested by claim 26 of Patent No. 6,246,231.

Claim 21 is suggested by claim 12 of Patent No. 6,246,231.

Claims 22- 25 are objected as being dependent upon a rejected independent claim, but allowable if rewritten in independent form.

5. **Claims 26-28 and 31-33** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-33 of Ashe, U.S. Patent No 6,246,231 and in view of Hansen et al. Patent No. 5,767,669. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been well known to a person skill in the art to use a magnetic field position and orientation measurement system with permeable attenuator.

Claims 26-28 are suggested by claim 1 of Patent No. 6,246,231.

Ashe discloses a transmitter 11 of Fig.2 transmitting a magnetic field M_a , M_b (operating field volume) of Table 1, Fig.5-16 (column 10, line 30-65) in a space 8,9 of Fig.13 to measure position of an object 31 of Fig.4 in the space. Ashe discloses a coil element 16,14 of Fig.2 that partially surround the transmitter.

Ashe lack in showing concurrently activation of a coil system. Hansen et al. is cited to show this concurrent activation of the coil system 17' of Fig.4-5 with comparator c_x and switch cs_x of Fig.4 configuration (column 10, line39-61) to reduce the magnetic

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field distortion (eddy current distortion) as shown in Figs. 4-5 (column 11 and 12, line 5-65). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include this type of configuration of Hansen et al. in Ashe system to provide accurate, efficient detectable system for detecting magnetic field with free of the distortion. The transmitter transmits a field in three degree to measure position of the object in a three degree provides the six degree of freedom.

Claims 31-33 are suggested by claim 1 of Patent No. 6,246,231.

Ashe discloses a transmitter 11 of Fig.1 improvement comprises:

the magnetic field includes an electromagnetic field Ma, Mb of Table 1 as shown in Figs. 5-13(column 14, line 5-30); the transmitter transmits a field to measure position and orientation of the object in six degrees of freedom as shown in Figs.2-13 (column 3,line 1-47); the transmitter has three mutually orthogonal coils x, y, z of Figs. 2-5 (column 9, line 5-15);

a common driver 21 of Fig.2 for the transmitter and the coil, the transmitter includes a driver 21 of Fig.2 for the transmitter and a second driver with a one ampere for each of the coil as shown in Figs.2-6 (column 12, line 3-40).

Claims 29- 30 and 44 are objected as being dependent upon a rejected independent claim, but allowable if rewritten in independent form .

6. **Claims 34-36 and 38-39** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-33 of Ashe,

U.S. Patent No 6,246,231. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been well known

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to a person skill in the art to use a magnetic field position and orientation measurement system with permeable attenuator.

Claims 34-35 are suggested by claim 27 of Patent No. 6,246,231.

Claim 36 are suggested by claim 30 of Patent No. 6,246,231.

Claim 38 are suggested by claim 29 of Patent No. 6,246,231.

Claim 39 are suggested by claim 31 of Patent No. 6,246,231

Claims 37 and 40-43 are objected as being dependent upon a rejected independent claim, but allowable if rewritten in independent form.

Allowable Subject Matter

7. **Claims 1-16** are allowed. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not teach or suggest a compensation coil surrounding a magnetic field permeable attenuator to reduce magnetic field distortions peripheral of the attenuator.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Subhash Zaveri whose telephone number is (703) 305 1972. The examiner can normally be reached on Monday-Friday from 9:00 AM to 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner supervisor, N. Le can be reached on (703) 308-0750. The fax phone number for this group is (703) ~~305-3432~~ *872-9306*.

Any inquiry of general nature or relating to the status of this application should be directed to the Customer Service at (703) 308-0596.



Subhash Zaveri
Patent Examiner
Tech Center 2862
December 10, 2003.



N. Le
Supervisory Patent Examiner
Technology Center 2800